

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A film forming method for forming a ~~metal~~ hafnium silicate film on a substrate by a CVD process using a gas of ~~metal alkoxide~~ hafnium tetra-tertiary butoxide (HTB) and a gas of ~~silicon hydride~~ disilane, the method comprising:

~~a step of~~ accommodating the substrate in a process chamber;
~~a step of~~ heating the substrate in the process chamber to a temperature higher than or equal to a temperature at which the ~~metal alkoxide~~ HTB is decomposed into ~~metal~~ hafnium hydroxide and ~~a specific intermediate~~ isobutylene but lower than a self-decomposition temperature of the ~~silicon hydride~~ disilane; and
~~a gas introduction step of~~ introducing the gas of the ~~metal alkoxide~~ HTB and the gas of the ~~silicon hydride~~ disilane into the process chamber through respective introduction passages separated from each other,

wherein the gas introduction [[step]] is performed in a state where one of the introduction passages for introducing the gas of the ~~metal alkoxide~~ HTB has a temperature lower than a self-decomposition temperature of the ~~metal alkoxide~~ HTB.

Claims 2-4 (Canceled).

Claim 5 (Currently Amended): The method of claim [[4]] 1, wherein the temperature of the substrate in the ~~step of~~ forming the film is higher than or equal to 350 °C but lower than or equal to 450°C.

Claims 6-7 (Canceled).

Claim 8 (Withdrawn): A film forming method comprising the steps of:
preparing a substrate; and
forming a hafnium silicate film on the substrate by a CVD process using a HTB gas

and a disilane gas,

wherein the step of forming the film is performed by setting a temperature of the substrate to be higher than or equal to 350 °C and lower than or equal to 450 °C.

Claim 9 (Withdrawn): A film forming apparatus for forming a metal silicate film on a substrate by a CVD process using a gas of metal alkoxide and a gas of silicon hydride, the apparatus comprising:

a process chamber for accommodating therein a substrate;
a heater for heating the substrate in the process chamber;
a gas supply system having a vaporizing unit for vaporizing metal alkoxide source material into a gas of metal alkoxide, the gas supply system for separately supplying the gas of the metal alkoxide and the gas of the silicon hydride to the process chamber;
a shower head for diffusing the gas of metal alkoxide and the gas of silicon hydride, each being supplied from the gas supply system, into the process chamber; and
a controller for controlling the heater such that the temperature of the substrate in the process chamber in the step of forming the film is set to be higher than or equal to a temperature at which the metal alkoxide is decomposed into metal hydroxide and a specific intermediate and lower than a self-decomposition temperature of the silicon hydride.

Claim 10 (Withdrawn): The apparatus of claim 9, wherein the metal alkoxide has a tertiary butoxyl radical as a ligand thereof.

Claim 11 (Withdrawn): The apparatus of claim 10, wherein the intermediate is isobutylene.

Claim 12 (Withdrawn): The apparatus of claim 10, wherein the metal alkoxide is HTB.

Claim 13 (Withdrawn): The apparatus of claim 12, wherein the temperature controller controls the temperature of the substrate when forming the film to be higher than or equal to 350 °C.

Claim 14 (Withdrawn): The apparatus of claim 9, wherein the silicon hydride is disilane.

Claim 15 (Withdrawn): The apparatus of claim 14, wherein the temperature controller controls the temperature of the substrate when forming the film to be lower than or equal to 450 °C.

Claim 16 (Withdrawn): The apparatus of claim 9, wherein the shower head is configured to separately supply the gas of metal alkoxide and the gas of silicon hydride into the process chamber.

Claim 17 (Withdrawn): A film forming apparatus for forming a hafnium silicate film on a substrate by a CVD process using an HTB gas and a disilane gas, comprising:
a process chamber for accommodating therein a substrate;
a heater for heating the substrate in the process chamber;

a gas supply system having a vaporizing unit for vaporizing an HTB liquid into an HTB gas, the gas supply system separately supplying the HTB gas and the disilane gas to the process chamber;

a shower head for diffusing the HTB gas and the disilane gas, each being supplied from the gas supply system, into the process chamber; and

a controller for controlling the heater such that the temperature of the substrate in the process chamber in the step of forming the film is set to be higher than or equal to 350 °C and lower than or equal to 450 °C.

Claim 18 (Withdrawn): The apparatus of claim 17, wherein the shower head is configured to separately supply the HTB gas and the disilane gas into the process chamber.

Claim 19 (Currently Amended): A method for manufacturing a semiconductor device, comprising ~~the steps of~~:

forming a silicon oxide film on a substrate;

forming a ~~metal~~ hafnium silicate film on the silicon oxide film by a CVD process using a gas of ~~metal alkoxide~~ hafnium tetra-tertiary butoxide (HTB) and a gas of ~~silicon~~ hydride disilane; and

forming a gate electrode on the ~~metal~~ hafnium silicate film,

wherein the ~~step of~~ forming the ~~metal~~ hafnium silicate film includes:

~~a substep of~~ accommodating the substrate on which the silicon oxide film is formed in a process chamber;

~~a substep of~~ heating the substrate in the process chamber to a temperature higher than or equal to a temperature at which the ~~metal alkoxide~~ HTB is decomposed into ~~metal~~ hafnium

hydroxide and a ~~specific intermediate~~ isobutylene but lower than a self-decomposition temperature of the ~~silicon hydride~~ disilane; and

~~a gas introduction substep~~ of introducing the gas of the ~~metal alkoxide~~ HTB and the gas of the ~~silicon hydride~~ disilane into the process chamber through respective introduction passages separated from each other,

wherein the gas introduction ~~substep~~ is performed in a state where one of the introduction passages for introducing the gas of the ~~metal alkoxide~~ HTB has a temperature lower than a self-decomposition temperature of the ~~metal alkoxide~~ HTB.

Claim 20 (Currently Amended): The manufacturing method of claim 19, wherein the ~~step of~~ forming the silicon oxide film is performed by oxidizing a surface of the silicon substrate with UV-excited oxygen radicals.

Claim 21 (New): The manufacturing method of claim 19, wherein the temperature of the substrate in the forming the hafnium silicate film is higher than or equal to 350 °C but lower than or equal to 450 °C.